USEPA CONTRACT LABORATORY PROGRAM

STATEMENT OF WORK

FOR

ORGANICS ANALYSIS

Multi-Media, Multi-Concentration

SOM01.1
May 2005

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STATEMENT OF WORK

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EXHIBIT C

TARGET COMPOUND LIST AND
CONTRACT REQUIRED QUANTITATION LIMITS

NOTE: Specific quantitation limits are highly matrix-dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

The Contract Required Quantitation Limit (CRQL) values listed on the following pages are based on the analysis of samples according to the specifications given in Exhibit D.

For soil samples, the moisture content of the samples must be used to adjust the CRQL values appropriately.

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1.0 VOLATILES TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS

			Quantitation Limits				
			Trace Water By SIM	Trace Water	Low Water	Low Soil	Med. Soil
	Volatiles	CAS Number	µg/L	µg/L	µg/L	µg/kg	µg/kg
1.	Dichlorodifluoromethane	75-71-8		0.50	5.0	5.0	250
2.	Chloromethane	74-87-3		0.50	5.0	5.0	250
3.	Vinyl chloride	75-01-4		0.50	5.0	5.0	250
4.	Bromomethane	74-83-9		0.50	5.0	5.0	250
5.	Chloroethane	75-00-3		0.50	5.0	5.0	250
6.	Trichlorofluoromethane	75-69-4		0.50	5.0	5.0	250
7.	1,1-Dichloroethene	75-35-4		0.50	5.0	5.0	250
8.	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		0.50	5.0	5.0	250
9.	Acetone	67-64-1		5.0	10	10	500
10.	Carbon disulfide	75-15-0		0.50	5.0	5.0	250
11.	Methyl acetate	79-20-9		0.50	5.0	5.0	250
12.	Methylene chloride	75-09-2		0.50	5.0	5.0	250
13.	trans-1,2-Dichloroethene	156-60-5		0.50	5.0	5.0	250
14.	Methyl tert-butyl ether	1634-04-4		0.50	5.0	5.0	250
15.	1,1-Dichloroethane	75-34-3		0.50	5.0	5.0	250
16.	cis-1,2-Dichloroethene	156-59-2		0.50	5.0	5.0	250
17.	2-Butanone	78-93-3		5.0	10	10	500
18.	Bromochloromethane	74-97-5		0.50	5.0	5.0	250
19.	Chloroform	67-66-3		0.50	5.0	5.0	250
20.	1,1,1-Trichloroethane	71-55-6		0.50	5.0	5.0	250
21.	Cyclohexane	110-82-7		0.50	5.0	5.0	250
22.	Carbon tetrachloride	56-23-5		0.50	5.0	5.0	250
23.	Benzene	71-43-2		0.50	5.0	5.0	250
24.	1,2-Dichloroethane	107-06-2		0.50	5.0	5.0	250
25.	1,4-Dioxane	123-91-1	2.0	20	100	100	5000
26.	Trichloroethene	79-01-6		0.50	5.0	5.0	250
27.	Methylcyclohexane	108-87-2		0.50	5.0	5.0	250
28.	1,2-Dichloropropane	78-87-5		0.50	5.0	5.0	250
29.	Bromodichloromethane	75-27-4		0.50	5.0	5.0	250
30.	cis-1,3-Dichloropropene	10061-01-5		0.50	5.0	5.0	250
31.	4-Methyl-2-pentanone	108-10-1		5.0	10	10	500
32.	Toluene	108-88-3		0.50	5.0	5.0	250
33.	trans-1,3-Dichloropropene	10061-02-6		0.50	5.0	5.0	250
34.	1,1,2-Trichloroethane	79-00-5		0.50	5.0	5.0	250
35.	Tetrachloroethene	127-18-4		0.50	5.0	5.0	250

Exhibit C -- Section 1
Volatiles Target Compound List and CRQLs (Con't)

1.0 VOLATILES TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS (Con't)

	Volatiles	CAS Number	Quantitation Limits: Trace Water By SIM µg/L	Trace Water µg/L	Low Water µg/L	Low Soil µg/kg	Med. Soil µg/kg
36.	2-Hexanone	591-78-6		5.0	10	10	500
37.	Dibromochloromethane	124-48-1		0.50	5.0	5.0	250
38.	1,2-Dibromoethane	106-93-4	0.050	0.50	5.0	5.0	250
39.	Chlorobenzene	108-90-7		0.50	5.0	5.0	250
40.	Ethylbenzene	100-41-4		0.50	5.0	5.0	250
41.	o-Xylene	95-47-6		0.50	5.0	5.0	250
42.	m,p-Xylene	179601-23-1		0.50	5.0	5.0	250
43.	Styrene	100-42-5		0.50	5.0	5.0	250
44.	Bromoform	75-25-2		0.50	5.0	5.0	250
45.	Isopropylbenzene	98-82-8		0.50	5.0	5.0	250
46.	1,1,2,2-Tetrachloroethane	79-34-5		0.50	5.0	5.0	250
47.	1,3-Dichlorobenzene	541-73-1		0.50	5.0	5.0	250
48.	1,4-Dichlorobenzene	106-46-7		0.50	5.0	5.0	250
49.	1,2-Dichlorobenzene	95-50-1		0.50	5.0	5.0	250
50.	1,2-Dibromo-3-chloropropane	96-12-8	0.050	0.50	5.0	5.0	250
51.	1,2,4-Trichlorobenzene	120-82-1		0.50	5.0	5.0	250
52.	1,2,3-Trichlorobenzene	87-61-6		0.50	5.0	5.0	250

2.0 SEMIVOLATILES TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS

			Quantitation Limits				
			Low Water By SIM[1]	Low Water	Low Soil By SIM[1]	Low Soil	Med. Soil
	Semivolatiles	CAS Number	µg/L	µg/L	µg/kg	µg/kg	µg/kg
53.	Benzaldehyde	100-52-7		5.0		170	5000
54.	Phenol	108-95-2		5.0		170	5000
55.	Bis(2-chloroethyl) ether	111-44-4		5.0		170	5000
56.	2-Chlorophenol	95-57-8		5.0		170	5000
57.	2-Methylphenol	95-48-7		5.0		170	5000
58.	2,2'-Oxybis(1-chloropropane)[2]	108-60-1		5.0		170	5000
59.	Acetophenone	98-86-2		5.0		170	5000
60.	4-Methylphenol	106-44-5		5.0		170	5000
61.	N-Nitroso-di-n propylamine	621-64-7		5.0		170	5000
62.	Hexachloroethane	67-72-1		5.0		170	5000
63.	Nitrobenzene	98-95-3		5.0		170	5000
64.	Isophorone	78-59-1		5.0		170	5000
65.	2-Nitrophenol	88-75-5		5.0		170	5000
66.	2,4-Dimethylphenol	105-67-9		5.0		170	5000
67.	Bis(2-chloroethoxy) methane	111-91-1		5.0		170	5000
68.	2,4-Dichlorophenol	120-83-2		5.0		170	5000
69.	Naphthalene	91-20-3	0.10	5.0	3.3	170	5000
70.	4-Chloroaniline	106-47-8		5.0		170	5000
71.	Hexachlorobutadiene	87-68-3		5.0		170	5000
72.	Caprolactam	105-60-2		5.0		170	5000
73.	4-Chloro-3-methylphenol	59-50-7		5.0		170	5000
74.	2-Methylnaphthalene	91-57-6	0.10	5.0	3.3	170	5000
75.	Hexachlorocyclo-pentadiene	77-47-4		5.0		170	5000
76.	2,4,6-Trichlorophenol	88-06-2		5.0		170	5000
77.	2,4,5-Trichlorophenol	95-95-4		5.0		170	5000
78.	1,1'-Biphenyl	92-52-4		5.0		170	5000

[1]CRQLs for optional analysis of water and soil samples using SIM technique for PAHs and phenols.

[2]Previously known as Bis(2-chloroisopropyl)ether.

2.0 SEMIVOLATILES TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS (Con't)

			Quantitation Limits				
			Low Water By SIM[1]	Low Water	Low Soil By SIM[1]	Low Soil	Med. Soil
Semivolatiles		CAS Number	µg/L	µg/L	µg/kg	µg/kg	µg/kg
79.	2-Chloronaphthalene	91-58-7		5.0		170	5000
80.	2-Nitroaniline	88-74-4		10		330	10000
81.	Dimethylphthalate	131-11-3		5.0		170	5000
82.	2,6-Dinitrotoluene	606-20-2		5.0		170	5000
83.	Acenaphthylene	208-96-8	0.10	5.0	3.3	170	5000
84.	3-Nitroaniline	99-09-2		10		330	10000
85.	Acenaphthene	83-32-9	0.10	5.0	3.3	170	5000
86.	2,4-Dinitrophenol	51-28-5		10		330	10000
87.	4-Nitrophenol	100-02-7		10		330	10000
88.	Dibenzofuran	132-64-9		5.0		170	5000
89.	2,4-Dinitrotoluene	121-14-2		5.0		170	5000
90.	Diethylphthalate	84-66-2		5.0		170	5000
91.	Fluorene	86-73-7	0.10	5.0	3.3	170	5000
92.	4-Chlorophenyl-phenyl ether	7005-72-3		5.0		170	5000
93.	4-Nitroaniline	100-01-6		10		330	10000
94.	4,6-Dinitro-2-methylphenol	534-52-1		10		330	10000
95.	N-Nitrosodiphenylamine	86-30-6		5.0		170	5000
96.	1,2,4,5-Tetra chlorobenzene	95-94-3		5.0		170	5000
97.	4-Bromophenyl-phenylether	101-55-3		5.0		170	5000
98.	Hexachlorobenzene	118-74-1		5.0		170	5000
99.	Atrazine	1912-24-9		5.0		170	5000
100.	Pentachlorophenol	87-86-5	0.20	10	6.7	330	10000
101.	Phenanthrene	85-01-8	0.10	5.0	3.3	170	5000
102.	Anthracene	120-12-7	0.10	5.0	3.3	170	5000
103.	Carbazole	86-74-8		5.0		170	5000
104.	Di-n-butylphthalate	84-74-2		5.0		170	5000
105.	Fluoranthene	206-44-0	0.10	5.0	3.3	170	5000
106.	Pyrene	129-00-0	0.10	5.0	3.3	170	5000
107.	Butylbenzylphthalate	85-68-7		5.0		170	5000

[1]CRQLs for optional analysis of water and soil samples using SIM technique for PAHs and phenols.

2.0 SEMIVOLATILES TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS (Con't)

			Quantitation Limits				
			Low Water By SIM[1]	Low Water	Low Soil By SIM[1]	Low Soil	Med. Soil
Semivolatiles		CAS Number	µg/L	µg/L	µg/kg	µg/kg	µg/kg
108.	3,3'-Dichlorobenzidine	91-94-1		5.0		170	5000
109.	Benzo(a)anthracene	56-55-3	0.10	5.0	3.3	170	5000
110.	Chrysene	218-01-9	0.10	5.0	3.3	170	5000
111.	Bis(2-ethylhexyl) phthalate	117-81-7		5.0		170	5000
112.	Di-n-octylphthalate	117-84-0		5.0		170	5000
113.	Benzo(b)fluoranthene	205-99-2	0.10	5.0	3.3	170	5000
114.	Benzo(k)fluoranthene	207-08-9	0.10	5.0	3.3	170	5000
115.	Benzo(a)pyrene	50-32-8	0.10	5.0	3.3	170	5000
116.	Indeno(1,2,3-cd) pyrene	193-39-5	0.10	5.0	3.3	170	5000
117.	Dibenzo(a,h)anthracene	53-70-3	0.10	5.0	3.3	170	5000
118.	Benzo(g,h,i)perylene	191-24-2	0.10	5.0	3.3	170	5000
119.	2,3,4,6-Tetrachlorophenol	58-90-2		5.0		170	5000

[1]CRQLs for optional analysis of water and soil samples using SIM technique for PAHs and pentachlorophenol.

3.0 PESTICIDES TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS[1]

Pesticides	CAS Number	Quantitation Limits Water µg/L	Quantitation Limits Soil µg/kg
120. alpha-BHC	319-84-6	0.050	1.7
121. beta-BHC	319-85-7	0.050	1.7
122. delta-BHC	319-86-8	0.050	1.7
123. gamma-BHC (Lindane)	58-89-9	0.050	1.7
124. Heptachlor	76-44-8	0.050	1.7
125. Aldrin	309-00-2	0.050	1.7
126. Heptachlor epoxide[2]	1024-57-3	0.050	1.7
127. Endosulfan I	959-98-8	0.050	1.7
128. Dieldrin	60-57-1	0.10	3.3
129. 4,4'-DDE	72-55-9	0.10	3.3
130. Endrin	72-20-8	0.10	3.3
131. Endosulfan II	33213-65-9	0.10	3.3
132. 4,4'-DDD	72-54-8	0.10	3.3
133. Endosulfan sulfate	1031-07-8	0.10	3.3
134. 4,4'-DDT	50-29-3	0.10	3.3
135. Methoxychlor	72-43-5	0.50	17
136. Endrin ketone	53494-70-5	0.10	3.3
137. Endrin aldehyde	7421-93-4	0.10	3.3
138. alpha-Chlordane	5103-71-9	0.050	1.7
139. gamma-Chlordane	5103-74-2	0.050	1.7
140. Toxaphene	8001-35-2	5.0	170

[1]There is no differentiation between the preparation of low and medium soil samples in this method for the analysis of pesticides.

[2]Only the exo-epoxy isomer (isomer B) of heptachlor epoxide is reported on the data reporting forms (Exhibit B).

4.0 AROCLORS TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS[1]

Aroclors	CAS Number	Quantitation Limits Water µg/L	Quantitation Limits Soil µg/kg
141. Aroclor-1016	12674-11-2	1.0	33
142. Aroclor-1221	11104-28-2	1.0	33
143. Aroclor-1232	11141-16-5	1.0	33
144. Aroclor-1242	53469-21-9	1.0	33
145. Aroclor-1248	12672-29-6	1.0	33
146. Aroclor-1254	11097-69-1	1.0	33
147. Aroclor-1260	11096-82-5	1.0	33
148. Aroclor-1262	37324-23-5	1.0	33
149. Aroclor-1268	11100-14-4	1.0	33

[1]There is no differentiation between the preparation of low and medium soil samples in this method for the analysis of Aroclors.

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EXHIBIT D

ANALYTICAL METHOD FOR THE ANALYSIS OF AROCLORS

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Exhibit D - Analytical Methods for Aroclors

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$D = \frac{100 - \%Moisture}{100}$

W_s = Weight of sample extracted in g.

DF = Dilution Factor. The DF for analysis of soil/sediment samples by this method is defined as follows:

$$\frac{\mu L \text{ most concentrated extract used to make dilution} + \mu L \text{ clean solvent}}{\mu L \text{ most concentrated extract used to make dilution}}$$

If no dilution is performed, DF = 1.0.

11.2.1.2.2 EQ. 10 On-Column Concentration of Soil Sample Extract

$$\text{On-Column Concentration (ng/}\mu L) = \frac{(A_x)}{(\overline{CF})\,(V_i)}$$

Where,

A_x = Same as EQ. 7.

$\overline{CF}$ = Same as EQ. 7.

V_i = Volume of extract injected (µL). (If a single injection is made onto two columns, use ½ the volume in the syringe as the volume injected onto each column).

11.2.2 Target Compounds

The quantitation of Aroclors must be accomplished by comparing the heights or the areas of each of a minimum of 3 major peaks of the Aroclor in the sample with the $\overline{CF}$ for the same peaks established during the specific five-point calibration. The concentration of multi-component analytes is calculated by using Equations 7 and 9, where A_x is the area for each of the major peaks of the Aroclor. The concentration of each peak is determined and then a mean concentration for a minimum of 3 major peaks is determined on each column.

11.2.2.1 Note that the $\overline{CF}$s used for the quantitation of Aroclors are the $\overline{CF}$s from the concentration of the specific five-point calibration.

11.2.2.2 The lower mean concentration (from a minimum of 3 peaks) is reported on Form I, and the two mean concentrations reported on Form X. The two mean concentrations are compared by calculating the Percent Difference (%Difference) using Equation 11.

EQ. 11 Percent Difference Calculation

$$\%\text{Difference} = \frac{\text{Conc}_H - \text{Conc}_L}{\text{Conc}_L} \times 100$$

Where,

Conc_H = The higher of the two concentrations for the target compound in question.

Conc_L = The lower of the two concentrations for the target compound in question.

NOTE: Using this equation will result in Percent Difference values that are always positive.

11.2.3 Contract Required Quantitation Limit (CRQL) Calculation

11.2.3.1 Water Samples

EQ. 12 Adjusted CRQL Calculation for Water Samples

$$\text{Adjusted CRQL} = \text{Contract CRQL} \times \frac{(V_x)\,(V_t)\,(DF)}{(V_o)\,(V_c)}$$

Where,

V_t, DF, and V_o = As given in Equation 7.

V_x = Contract sample volume (1000 mL).

V_c = Contract concentrated extract volume (10,000 µL if GPC was not performed and $V_c = V_{out}$ if GPC was performed).

11.2.3.2 Soil/Sediment Samples

EQ. 13 Adjusted CRQL Calculation for Soil/Sediment Samples

$$\text{Adjusted CRQL} = \text{Contract CRQL} \times \frac{(W_x)\,(V_t)\,(DF)}{(W_s)\,(V_c)\,(D)}$$

Where,

DF, W_s, and D = As given in Equation 9.

V_t = As given in Equation 7.

W_x = Contract sample weight (30 g).

V_c = Contract concentrated extract volume (10,000 µL if GPC was not performed).

EXHIBIT D

ANALYTICAL METHOD FOR THE ANALYSIS OF SEMIVOLATILE ORGANIC COMPOUNDS

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Exhibit D - Analytical Methods for Semivolatiles

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11.2.3.2 Soil/Sediment Samples

EQ. 8 Soil/Sediment Adjusted CRQL

$$\text{Adjusted CRQL} = \text{Contract CRQL} \times \frac{(W_x)\,(V_t)\,(DF)}{(W_s)\,(V_c)\,(D)}$$

Where,

V_t and DF = As given in Equation 5.

W_s and D = As given in Equation 6.

W_x = Contract sample weight (30 g for low-level soil/sediment samples and 1.0 g for medium-level soil/sediment samples).

V_c = Contract concentrated extract volume (If GPC is required, $V_c = V_{out}$).

11.2.4 Deuterated Monitoring Compound (DMC) Recoveries

11.2.4.1 Calculate DMC recoveries for all samples, blanks, and Matrix Spike and Matrix Spike Duplicates (MS/MSDs). Determine if recovery is within limits (Table 6) and report on the appropriate form.

11.2.4.2 Calculate the concentrations of the DMCs using the same equations as used for the target compounds. Calculate the recovery of each DMC using the following equation:

EQ. 9 DMC Percent Recovery Calculation

$$\%\ \text{Recovery} = \frac{(\text{Concentration (or amount) found} \times DF)}{\text{Concentration (or amount) spiked}} \times 100$$

Where,

DF = Same as EQ. 5.

11.3 Technical Acceptance Criteria for Sample Analysis

11.3.1 The samples must be analyzed on a GC/MS system meeting the instrument performance check, initial calibration, CCV, and blank technical acceptance criteria. The sample must undergo cleanup procedures, when required, on a GPC meeting the technical acceptance criteria for GPC calibration.

11.3.2 The sample must be extracted and analyzed within the contract holding times.

11.3.3 The sample must have an associated method blank meeting the blank technical acceptance criteria.

11.3.4 The Percent Recoveries of DMCs in a sample must be within the recovery limits listed in Table 6. Up to four DMCs per sample may fail to meet the recovery limits listed in Table 6 but all Percent

DF = Dilution Factor. The DF for analysis of soil/sediment samples for semivolatiles by this method is defined as follows:

$$DF = \frac{\mu L \text{ most conc. extract used to make dilution} + \mu L \text{ clean solvent}}{\mu L \text{ most conc. extract used to make dilution}}$$

If no dilution is performed, DF = 1.0.

A GPC factor of 2.0 is used to account for the amount of extract that is not recovered from the mandatory use of GPC cleanup. Concentrating the extract collected after GPC to 0.5 mL maintains the sensitivity of the soil/sediment method.

11.2.2 Non-Target Compound

An estimated concentration for non-target compounds tentatively identified shall be quantitated by the internal standard method. For quantitation, the nearest internal standard free of interferences shall be used. The equations for calculating concentration are the same as Equations 5 and 6. Total area counts (or peak heights) from the total ion chromatograms are to be used for both the compounds to be measured and the internal standard. An RRF of 1 is to be assumed. The resulting concentration shall be qualified as "J" (estimated, due to lack of a compound specific response factor), and "N" (presumptive evidence of presence), indicating the quantitative and qualitative uncertainties associated with this non-target component. An estimated concentration should be calculated for all TICs as well as those identified as unknowns.

11.2.3 CRQL Calculations

11.2.3.1 Water Samples

EQ. 7 Aqueous Adjusted CRQL

$$\text{Adjusted CRQL} = \text{Contract CRQL} \times \frac{(V_x)\,(V_t)\,(DF)}{(V_o)\,(V_c)}$$

Where,

V_t, DF, and V_o are as given in Equation 5.

V_x = Contract sample volume (1000 mL).

V_c = Contract concentrated extract volume (1000 µL if GPC is not performed. If GPC was performed, then $V_c = V_{out}$).

EXHIBIT D

ANALYTICAL METHOD FOR THE ANALYSIS OF PESTICIDES

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Exhibit D - Analytical Methods for Pesticides

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11.2.1.6.2.2 EQ. 17 On-Column Concentration of Soil Sample Extract

$$\text{On-Column Concentration (ng/µL)} = \frac{(A_x)}{(\overline{CF})\ (V_i)}$$

Where,

A_x = Same as EQ. 14.

$\overline{CF}$ = Same as EQ. 14.

V_i = Volume of extract injected (µL). (If a single injection is made onto two columns, use ½ the volume in the syringe as the volume injected onto each column).

11.2.1.7 The lower of the two concentrations calculated for each single component pesticide is reported on Form I. In addition, the concentrations calculated for both the GC columns are reported on Form X, along with a Percent Difference (%Difference) comparing the two concentrations. The Percent Difference is calculated according to Equation 18.

EQ. 18 Percent Difference Between Concentrations on Both GC Columns

$$\%D = \frac{Conc_H - Conc_L}{Conc_L} \times 100$$

Where,

$Conc_H$ = The higher of the two concentrations for the target compound in question.

$Conc_L$ = The lower of the two concentrations for the target compound in question.

NOTE: Using this equation will result in Percent Difference values that are always positive.

11.2.1.8 The quantitation of Toxaphene must be accomplished by comparing the heights or the areas of each of the three or four major peaks of in the sample with the CF for the same peaks established during the initial calibration sequence. The concentration of Toxaphene is calculated by using Equations 14 and 16, where A_x is the area for each of the major peaks. The concentration of each peak is determined and then a mean concentration for the three or four major peaks is determined on each column.

11.2.1.9 The reporting requirement for Toxaphene is similar to that for the single component analytes, except that the lower mean concentration (from three or four peaks) is reported on Form I, and the two mean concentrations reported on Form X. The two mean concentrations are compared by calculating the Percent Difference using Equation 18.

11.2.2 CRQL Calculation

11.2.2.1 Water Samples

EQ. 19 CRQL for Water Samples

$$\text{Adjusted CRQL} = \text{Contract CRQL} \times \frac{\text{Contract Sample Vol (1000 mL)}}{V_o} \times DF \times \frac{Vt}{(V_c)}$$

Where,

Contract CRQL = The CRQL value reported in Exhibit C (Pesticides).

V_o = Same as EQ. 14.

DF = Same as EQ. 14.

V_t = Same as EQ. 14.

V_c = Contract concentrated extract volume [10,000 µL if Gel Permeation Chromatography (GPC) was not performed and $V_c = V_{out}$ if GPC was performed].

11.2.2.2 Soil/Sediment Samples

EQ. 20 CRQL for Soil/Sediment Samples

$$\text{Adjusted CRQL} = \text{Contract CRQL} \times \frac{\text{Contract Sample Wt. (30 g)}}{W_s} \times DF \times \frac{Vt}{V_c} \times \frac{100}{(100 - M_p)}$$

Where,

Contract CRQL = The CRQL value reported in Exhibit C (Pesticides).

W_s = Same as EQ. 16.

DF = Same as EQ. 16.

V_t = Same as EQ. 16.

V_c = Same as EQ. 19.

M_p = Percent Moisture.

11.2.3 Surrogate Recoveries

11.2.3.1 The concentrations of the surrogates are calculated separately for each GC column in a similar manner as the other analytes, using Equations 14 and 16. Use the $\overline{CF}$s from the initial calibration. If two Individual Standard Mixtures are used, $\overline{CF}$s from Individual Standard Mixture A are to be used.

11.2.3.2 The recoveries of the surrogates are calculated for each GC column according to Equation 13, Percent Recovery (%R).